FLORENCE
COPPER

FLORENCE COPPER INC.
1575 W. Hunt Highway, Florence, Arizona 85132 USA
florencecopper.com

April 22, 2019

Mr. David Albright
U.S. Environmental Protection Agency, Region 9
Drinking Water Protection Services, WTR-3-2
75 Hawthorne Street
San Francisco, California 94105-3901

Re: Mechanical Integrity Demonstrations, PTF Recovery Wells
Production Test Facility, UIC Permit No. R9UIC-AZ3-FY11-1
Florence Copper, Florence Arizona

Dear Mr. Albright:

Florence Copper Inc. (Florence Copper) has completed temperature decay logs (temperature logs) at the Production Test Facility (PTF) recovery wells in support of Part II Mechanical Integrity Demonstration. Temperature logging conducted at Recovery Wells R-07 and R-08 is not described in this report because temperature logging results for these wells were submitted in a previous memo dated February 14, 2019. The tests were completed in accordance with Part II.E.3(a)(ii)(b) and Appendix D of the Underground Injection Control Permit No. R9UIC-AZ3-FY11-1; Conditional Authorization to Commence Injection for the PTF letter dated December 14, 2018; and the Approval of Temperature Logging Procedure for the PTF letter dated January 31, 2019.

Prior to conducting the temperature decay logs all downhole equipment was removed from the well. Pumping equipment was removed from each recovery well the day before temperature logging was conducted, with work being completed no later than 7:00 p.m. each day. Temperature logging was started after 7:00 a.m. the following day, ensuring a shut in time of at least 12 hours at each recovery well. Shut in times reported on the temperature logs indicate time between runs. Below is a summary of temperature decay logging results.

R-01 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 8:10 a.m. and 12:36 p.m. on February 20, 2019. The results of the temperature logging are included in Attachment 1.

R-02 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 7:25 a.m. and 12:25 p.m. on February 21, 2019. The results of the temperature logging are included in Attachment 1.

R-03 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 7:15 a.m. and 12:12 p.m. on March 12, 2019. The results of the temperature logging are included in Attachment 1.

R-04 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 7:15 a.m. and 11:45 a.m. on March 6, 2019. The results of the temperature logging are included in Attachment 1.

R-05 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 7:00 a.m. and 12:03 p.m. on March 14, 2019. The results of the temperature logging are included in Attachment 1.

R-06 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 7:00 a.m. and 11:50 a.m. on March 13, 2019. The results of the temperature logging are included in Attachment 1.

R-09 Temperature Logging

Prior to conducting the temperature decay log all downhole equipment was removed and the well was shut in for a period of more than 12 hours. Temperature logs were run on the well at 7:36 a.m. and 1:11 p.m. on February 17, 2019. The results of the temperature logging are included in Attachment 1.

Summary

The temperature logging results for all recovery wells show no anomalies that would indicate that there is flow behind the well casing. The temperature logs for each logging event are parallel to each other in the cemented zone and there is little to no differential between the two runs in each logging event.

Please contact me at 520-374-3984 if you require any additional information.

Sincerely,
Florence Copper Inc.

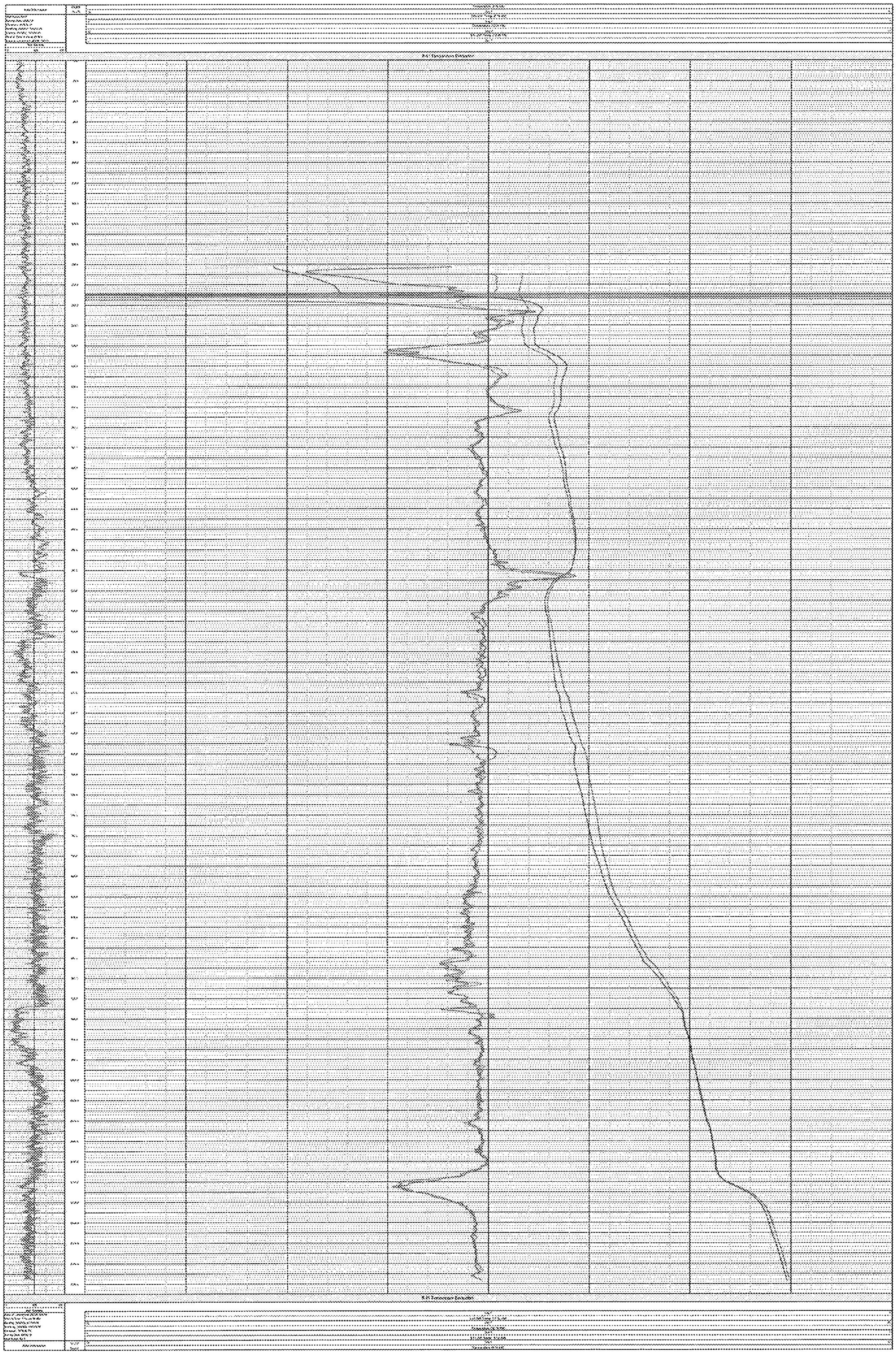
Daniel Johnson
Vice President - General Manager

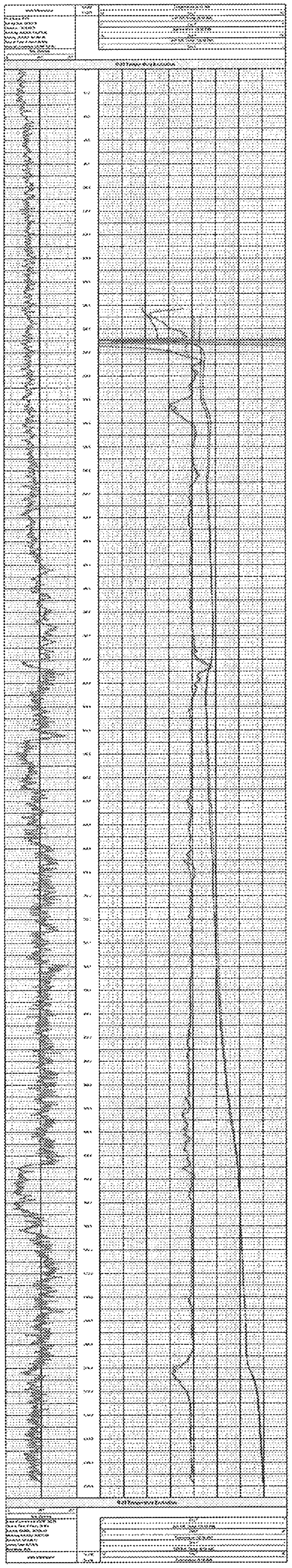
Enclosure:
Attachment 1 - Temperature Logs

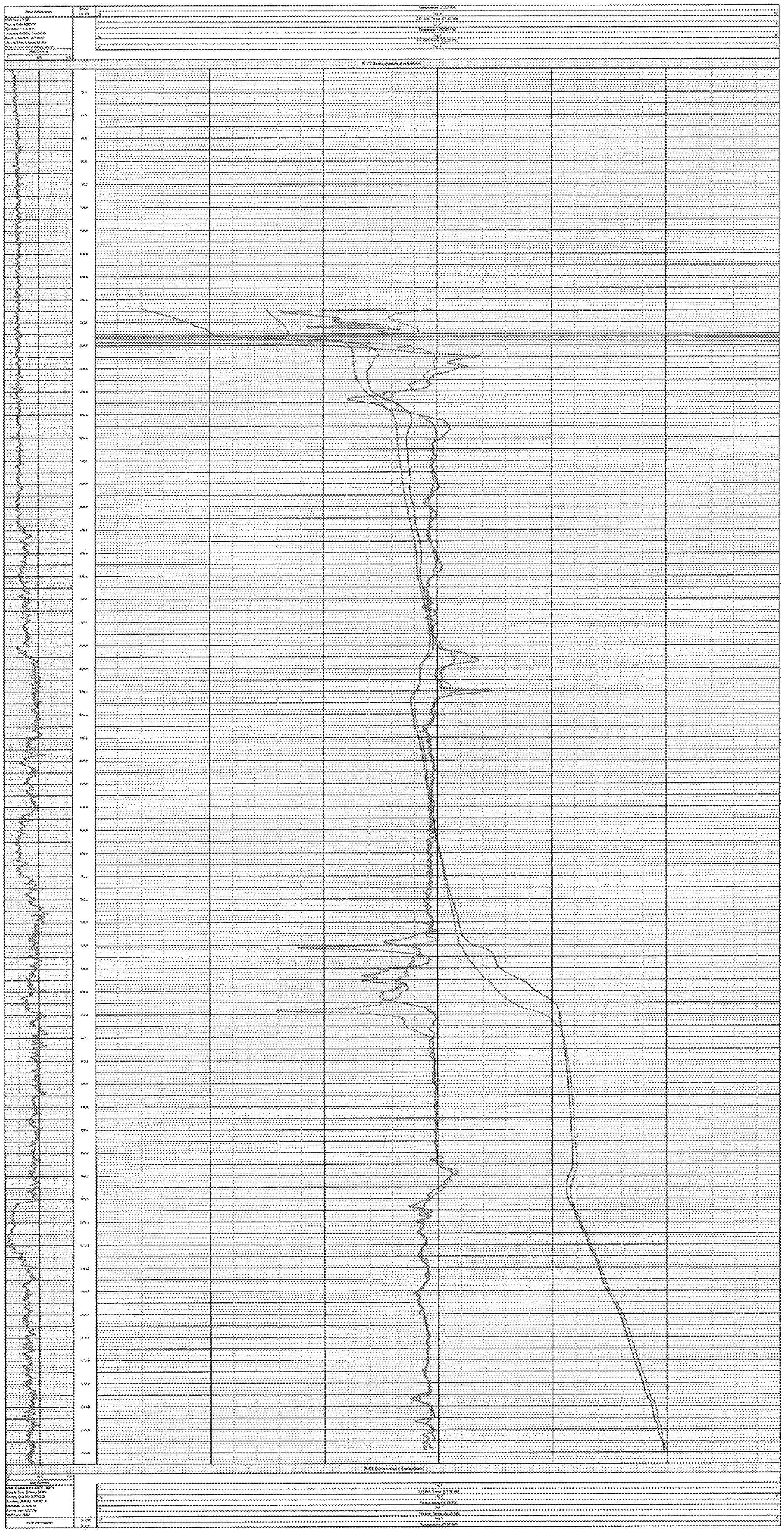
cc: Maribeth Greenslade, ADEQ
Nancy Rumrill, USEPA

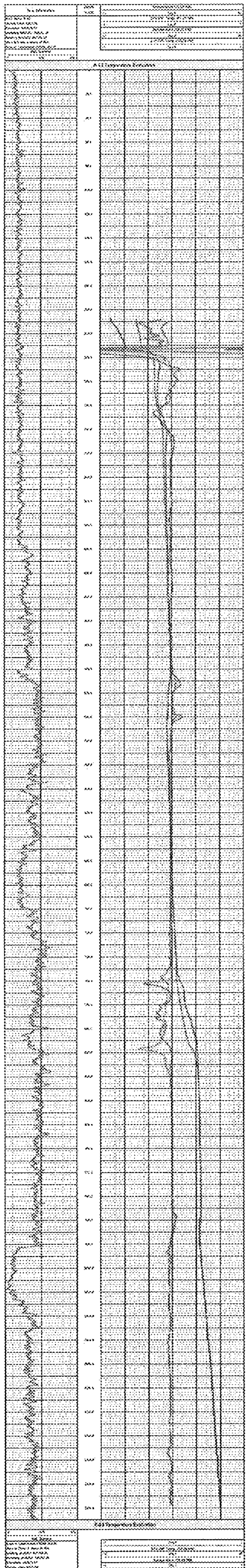
ATTACHMENT 1

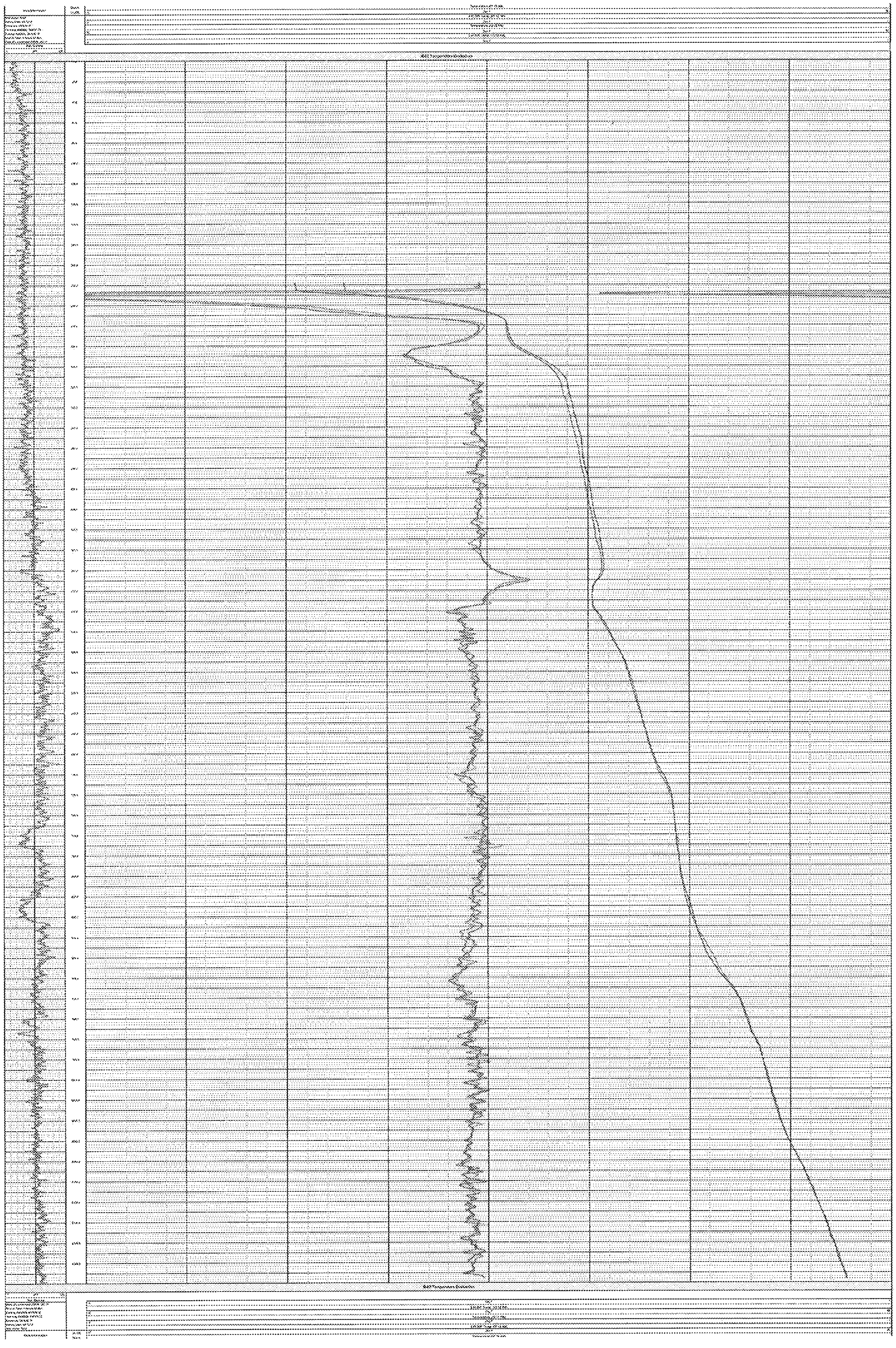
Temperature Logs

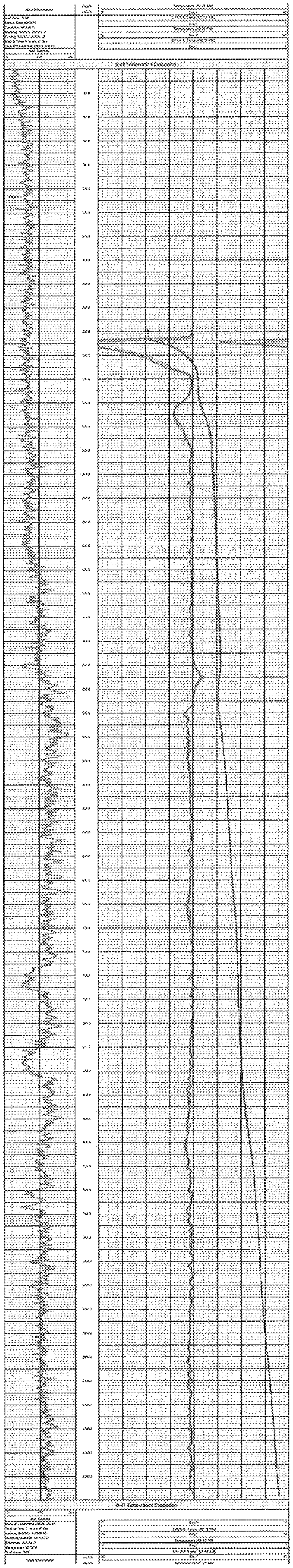


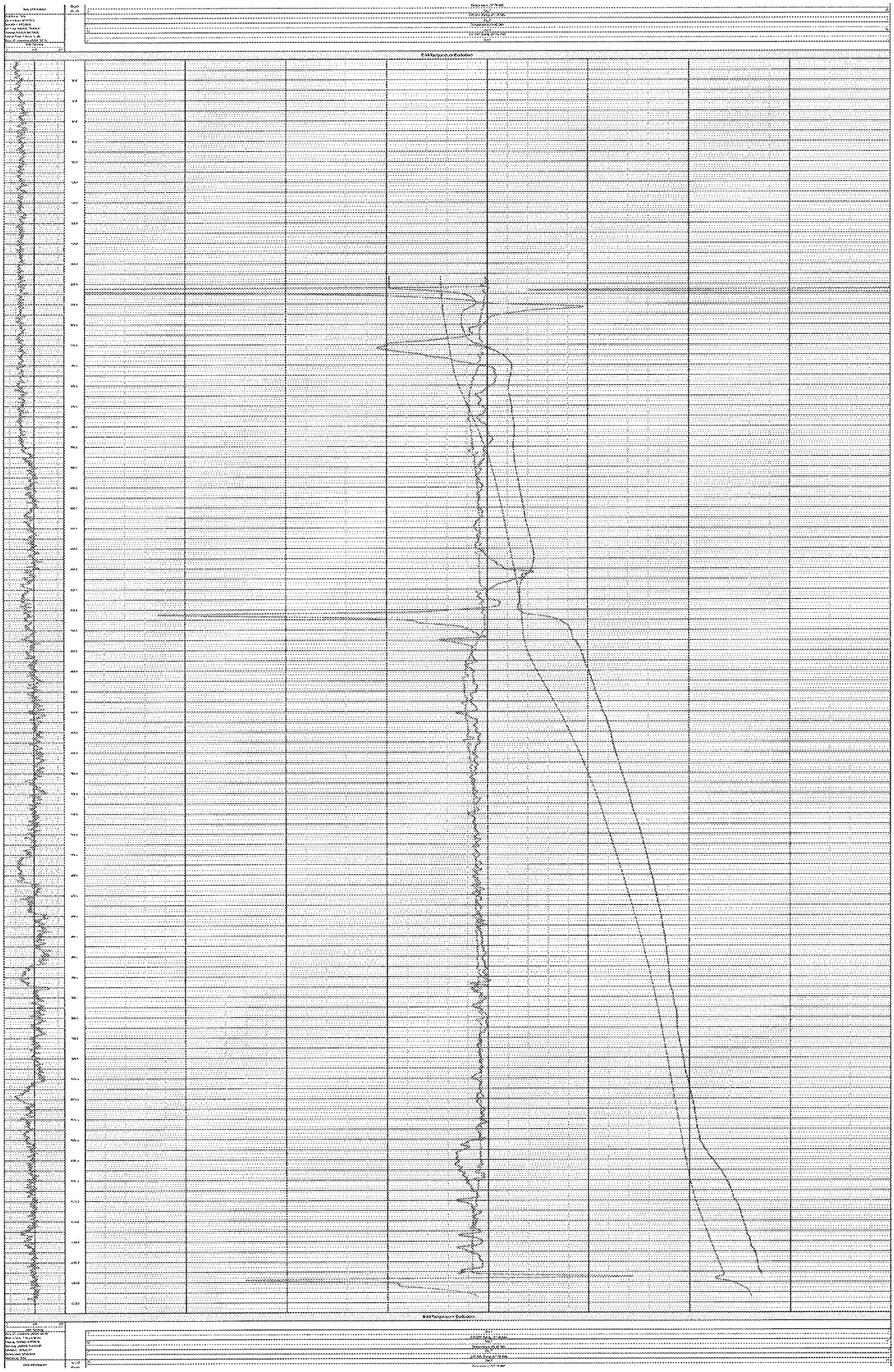


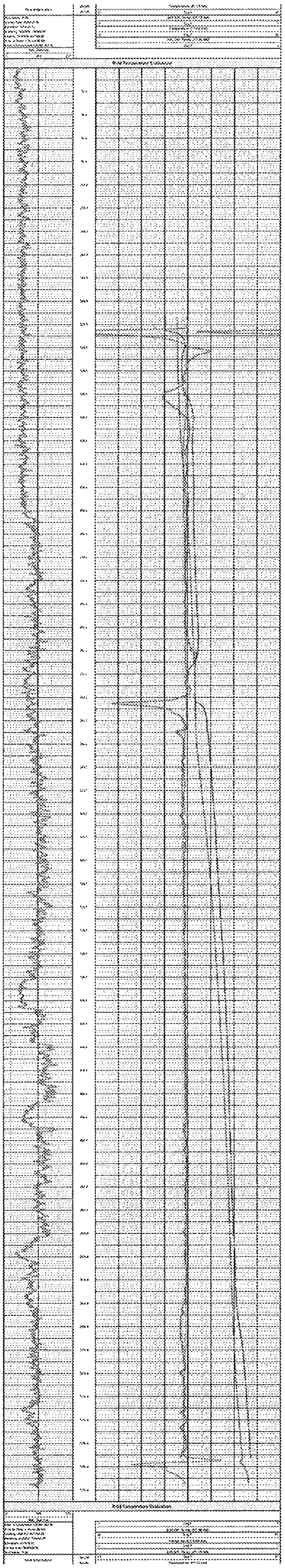


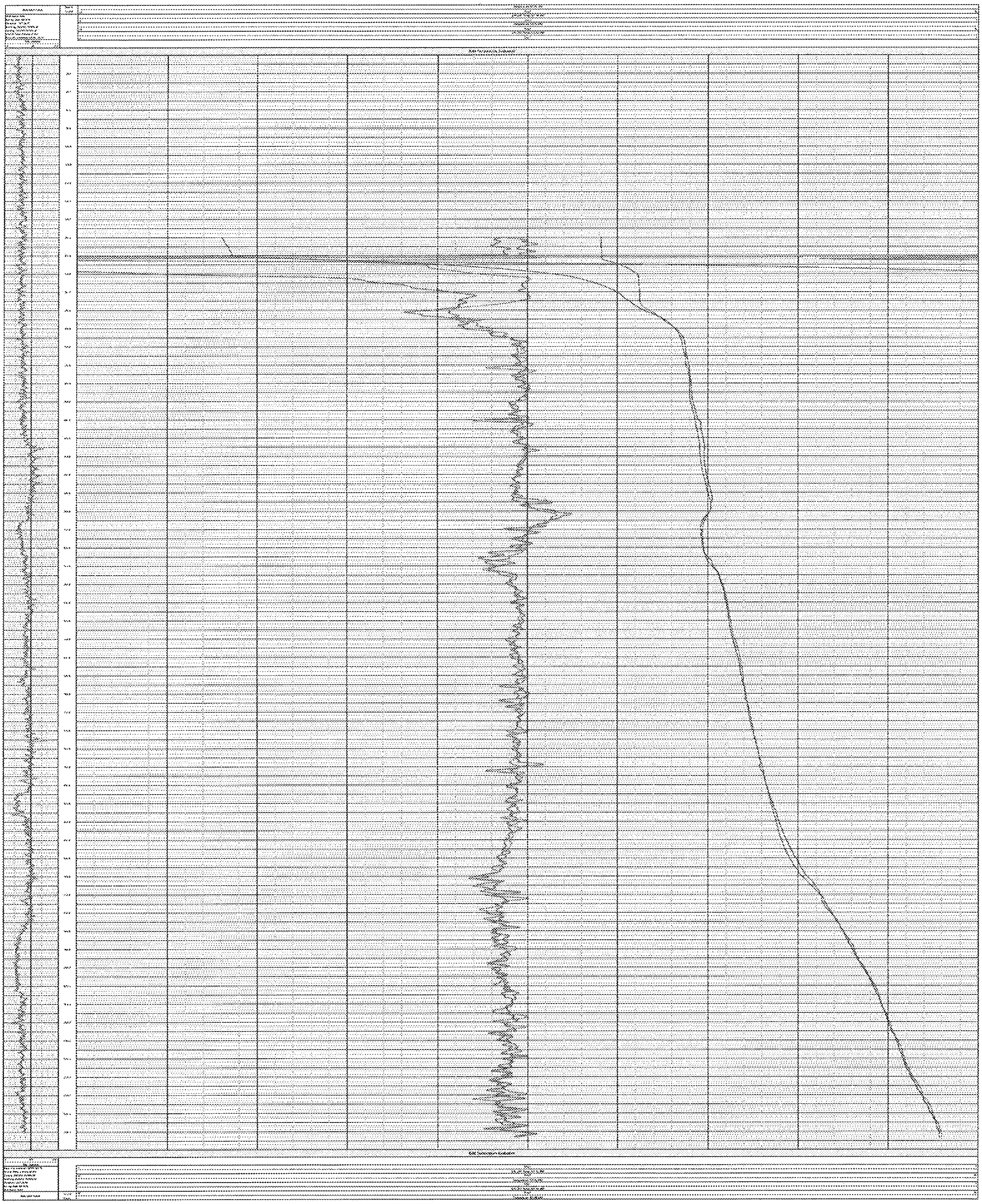


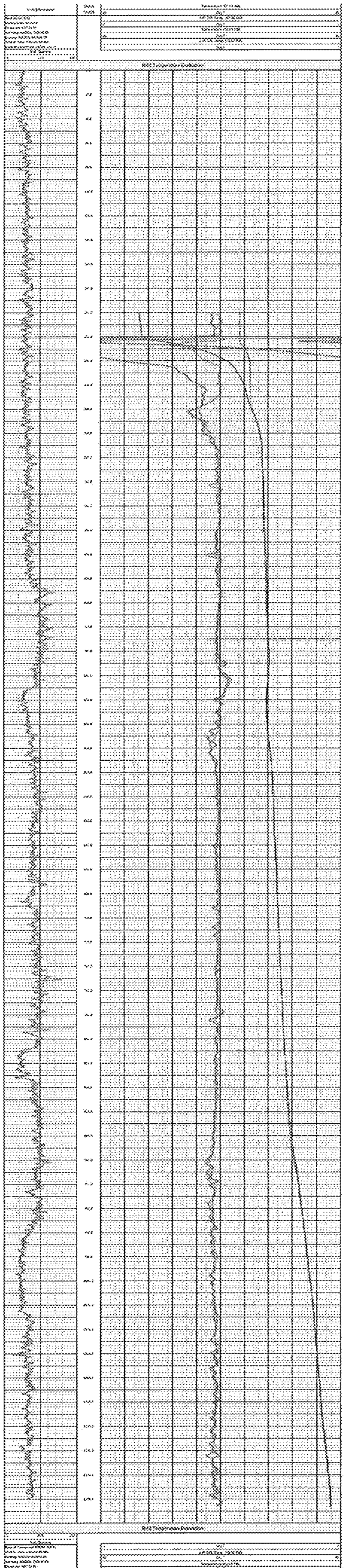


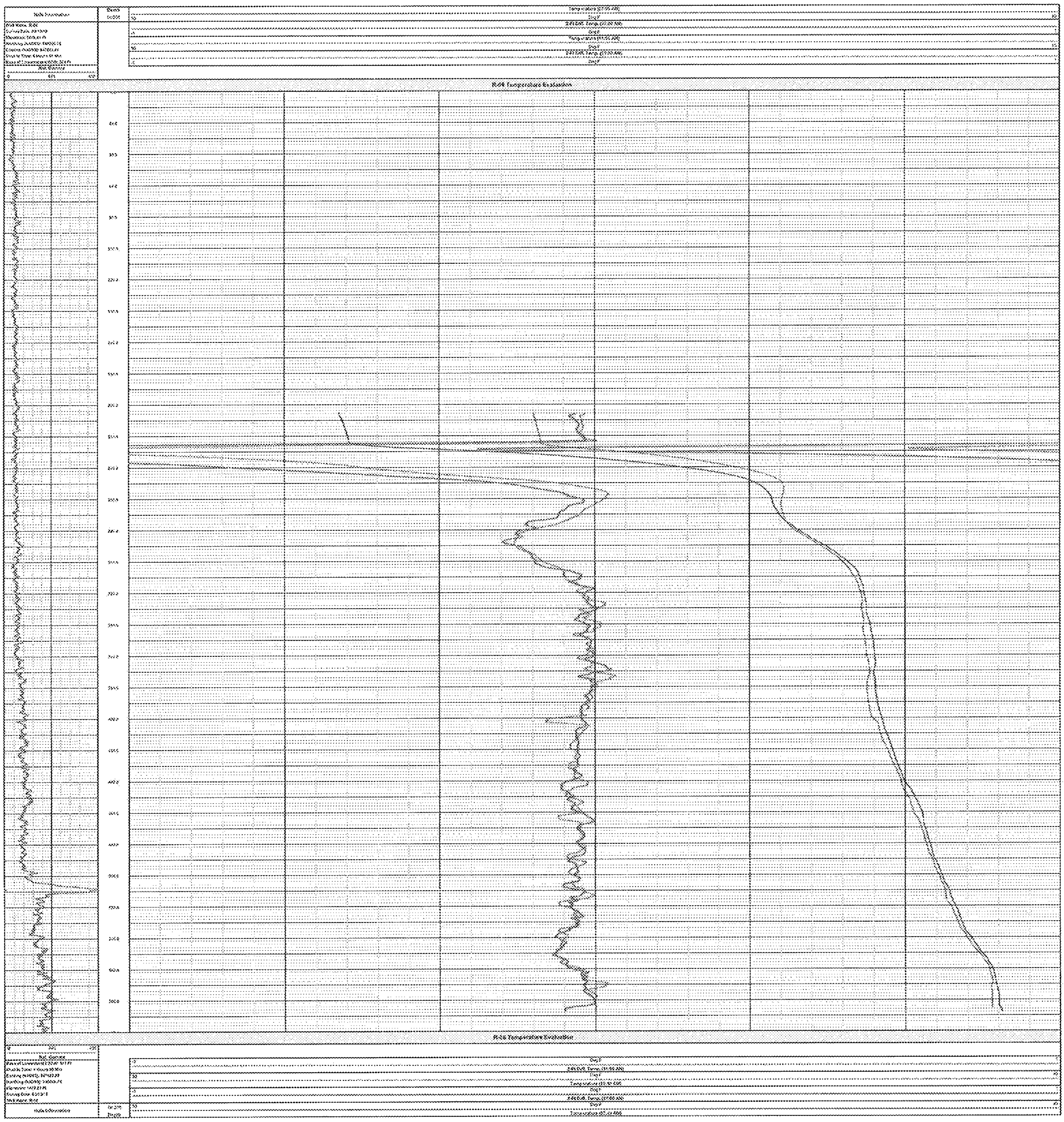

Temperature Evaluation
Temperature Evaluation

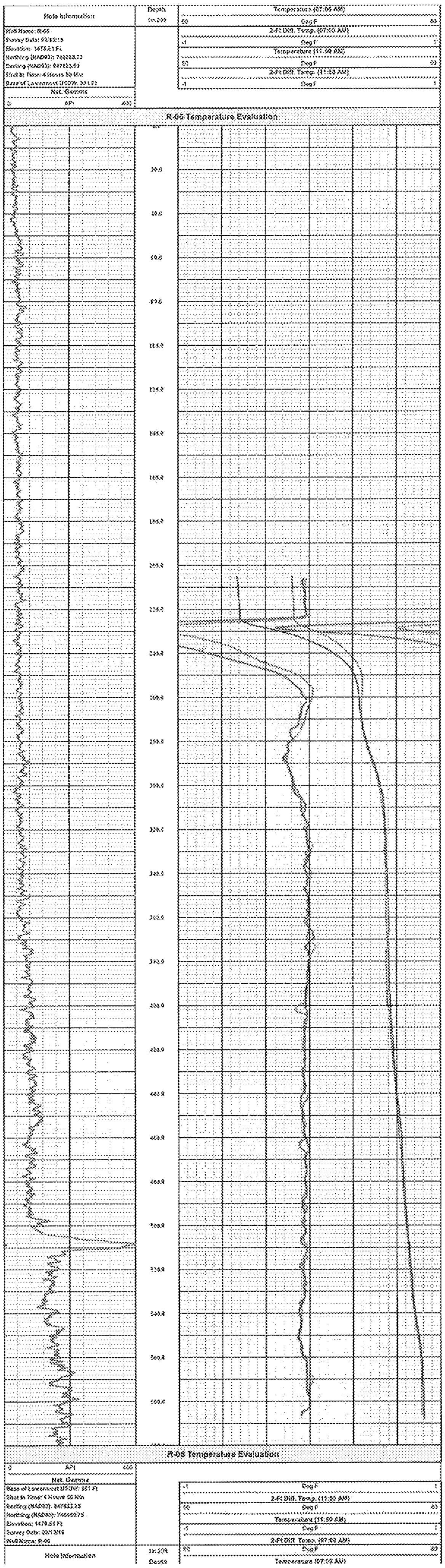









Deg F
Temperature Evaluation


Hole Information
Depth
1in:20ft
Temperature (07:00 AM)
50
Deg F
60
2-Ft Diff. Temp. (07:00 AM)
-1
Deg F
1
Temperature (11:50 AM)
50
Deg F
60
2-Ft Diff. Temp. (11:50 AM)
-1
Deg F
1
Well Name: R-06
Survey Date: 03/13/19
Elevation: 1479.51 Ft
Northing (NAD83): 746660.75
Easting (NAD83): 847633.25
Shut In Time: 4 Hours 50 Min
Base of Lowermost USDW: 391 Ft
Net. Gamma
0
API
400
R-06 Temperature Evaluation
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0
180.0
200.0
220.0
240.0
260.0
280.0
300.0
320.0
340.0
360.0
380.0
400.0
420.0
440.0
460.0
480.0
500.0
520.0
540.0
560.0
580.0
R-06 Temperature Evaluation
0
API
400
Net. Gamma
Base of Lowermost USDW: 391 Ft
Shut In Time: 4 Hours 50 Min
Easting (NAD83): 847633.25
Northing (NAD83): 746660.75
Elevation: 1479.51 Ft
Survey Date: 03/13/19
Well Name: R-06
-1
Deg F
1
2-Ft Diff. Temp. (11:50 AM)
50
Deg F
60
Temperature (11:50 AM)
-1
Deg F
1
2-Ft Diff. Temp. (07:00 AM)
50
Deg F
60
Temperature (07:00 AM)
Hole Information
1in:20ft
Depth